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THE HORN SPEAKER

From a photograph made for POPULAR RADIO

THE MAN WHO ASSIGNS THE CODE NAMES

His official title is "chief of the Radio Service, Department of Commerce;" his name is W. D. Terrill—known to radio amateurs throughout the country.

What "Call Letters" Mean

By CAPT. WILLIAM E. MOORE 1924

EVERYONE who has ever listened in on the radio—and there are few left who have not—is familiar with the formula that every sender uses when he introduces himself into the world of the ether.

First of all he asks "all clear?" Only he doesn't ask it in exactly those terms. He uses the same expression that the golfer uses; he queries "fore?" Or else he uses the code signal:

" . . . "

If he finds that he is not intruding upon a conversation; if no one warns him to keep out; the sender then proceeds to call the station he wants by repeating its call letters three times, thus:

"2AQB 2AQB 2AQB."

And then he follows up by identifying himself by his own call letters:

"De2XK 2XK 2XK."

What do these call letters mean? Who assigns them? What do the numbers and letters signify?

The number 2 in both of the above calls indicates that the sending station is

SERVICING

PAPER CAPACITORS
by Tom Tompkins,
owner, Metco Electronics

Unlike their electrolytic cousins, "paper" seldom lose capacitance with age. They are, however, because of their construction, subject to electrical leakage. As a result, they often are a cause of poor reception in an older model radio.

Paper capacitors are constructed of alternating layers of metal foil and wax impreganeted paper insulation, tightly rolled roll for compactness. They are frequently housed in a cardboard tube sealed with wax or resin, although later types were covered with plastic. While this "tubular" style of capacitor is encountered most often, there are variations. Philco, for example, used to house one or more capacitors in a pitch filled bakelite housing that sported solder terminals and could be screwed to the chassis. During the early years of the AC powered receiver, manufacturers often combined a number of paper capacitors, some of which had the large capacitance needed for B+ filtering, into a single, pitch filled metal box known as a capacitor "bank."

One might assume that with all the wax, pitch and plastic sealing, these capacitors would be impervious to moisture. Unfortunately, this is not the case. All it takes is storage in a damp barn or basement and soon the paper inside has absorbed enough humidity to make it partially conductive and the capacitor leaky. The effect of this lowered internal

(See page 4.)

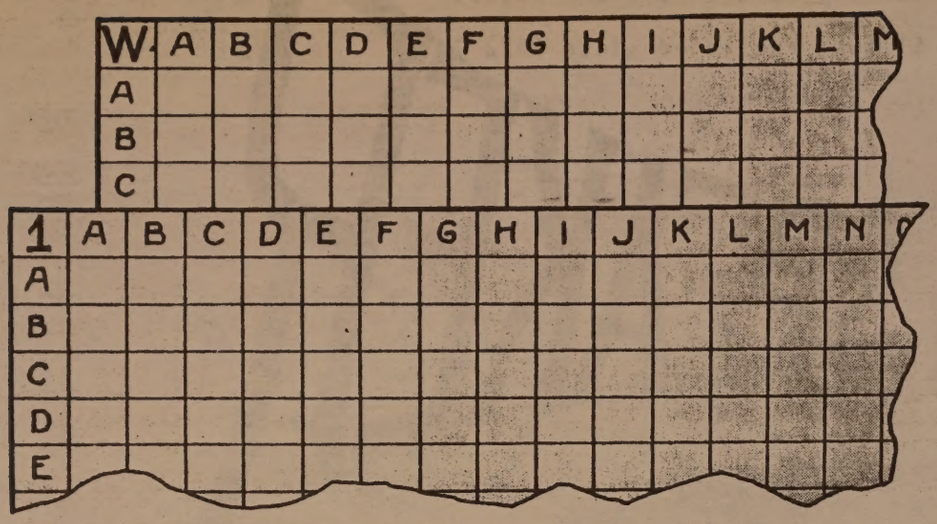

FIGURE 1: THE "W CHART" ON WHICH CALL LETTERS FOR COMMERCIAL STATIONS ARE DETERMINED

In each of the squares is written the name and address of the station to which the call letters are assigned, beginning with the first square, which is designated as WAA. On the chart below the amateurs call numbers and letters are determined, beginning with the call letters 1AA.

an amateur station located in the Second Area. There are nine areas in the United States altogether. The call letters "2AQB" thus make clear the status of the station and its general location; a reference to the booklet, "Amateur Radio Stations of the United States," issued by the Department of Commerce, identifies the sender as William A. Mackay of Coytesville, New Jersey.

The sending station call number indicates that it is also an amateur station and that it is also located in the Second Area. But the letter X marks that station as unique among amateurs, for that letter is reserved exclusively for experimental stations that have special privileges. And the K identifies the particular station within this classification. A reference to the printed list of licensed stations shows that the station is located in New York City and is owned by Laurence M. Cockaday.

Whenever the letters X, Y or Z follows a numeral, the amateur station may be identified as an experiment station, a school or institute, or an amateur radio relay station, respectively.

Similarly, all call letters that begin with W and N belong exclusively to Uncle Sam; the letter K belongs to him only in part. They were first officially assigned to him at an international conference held in 1912, when the letters of the alphabet were distributed among the nations of the world for such purposes. How Uncle Sam makes use of these three letters is his own concern.

This division of the alphabet among the great powers of the world—a division which is still unknown to the masses of the people of the participating nations—began at London on the occasion of the International Radiotelegraphic Conference and was completed at Berne, Switzerland, on the day of the beginning of the World War, August 1, 1914. The London Conference sat to consider the regulation of radio communication between the nations of the world. At that gathering, mandates for international call letters were distributed among the conferring powers.

But the delegates to London made only a partial allotment of call letters to those countries that signed the convention; this work was completed later by the International Bureau of the Telegraphic Union at Berne, when by the consent of the associated nations it modified and added to the previous allotment of call letters.

The call letters distributed by the Berne Bureau now constitute the basis for every signal that is sent out by a government or commercial radio operator anywhere in the world. That the twenty-six letters of our alphabet can be shifted about to form a sufficient number of combinations to furnish call signals for so many radio stations is at first thought astonishing. But when one considers that the United States of America is getting along without difficulty on something less than three call letters, one realizes that the rest of the world ought to be able to do fairly well on the remaining twenty-three letters.

Thus it was that in the distribution of the alphabet among the peoples of the earth the letters N, W and K fell to the lot of Uncle Sam. This statement must be slightly modified, however, for K is not wholly our own. We divide ownership with Germany.

At this point, perhaps, it should be explained that the service regulations of the International Radiotelegraphic Convention provide that the call letters of stations in the international system must be formed of a group of three letters (now sometimes extended to four) which shall be distinguishable from one another. The call letters allotted to the United States comprise all three and four letter combinations beginning with the letter N, all those beginning with the letter W, and all combinations from KDA to KZZ, inclusive.

The K combinations from KAA to KBZ belong to Germany.

One might think, if he were not broadly informed in matters pertaining to this fascinating new field of communication, that the numerous commercial and government stations in America would quickly absorb all the possible letter combinations beginning with N, W and K. If so, he has another surprise in store when he learns the almost limitless possibilities of combinations within the alphabetical boundaries. In alotting the letters internally the government first turned over the letter N entirely to the Navy Department. Even that does not complete the whittling down process, for the combinations from WUA to WVZ and from WXA to WZZ are reserved for the United States Army. What remains is the commercial allotment.

We have, then, three national sources

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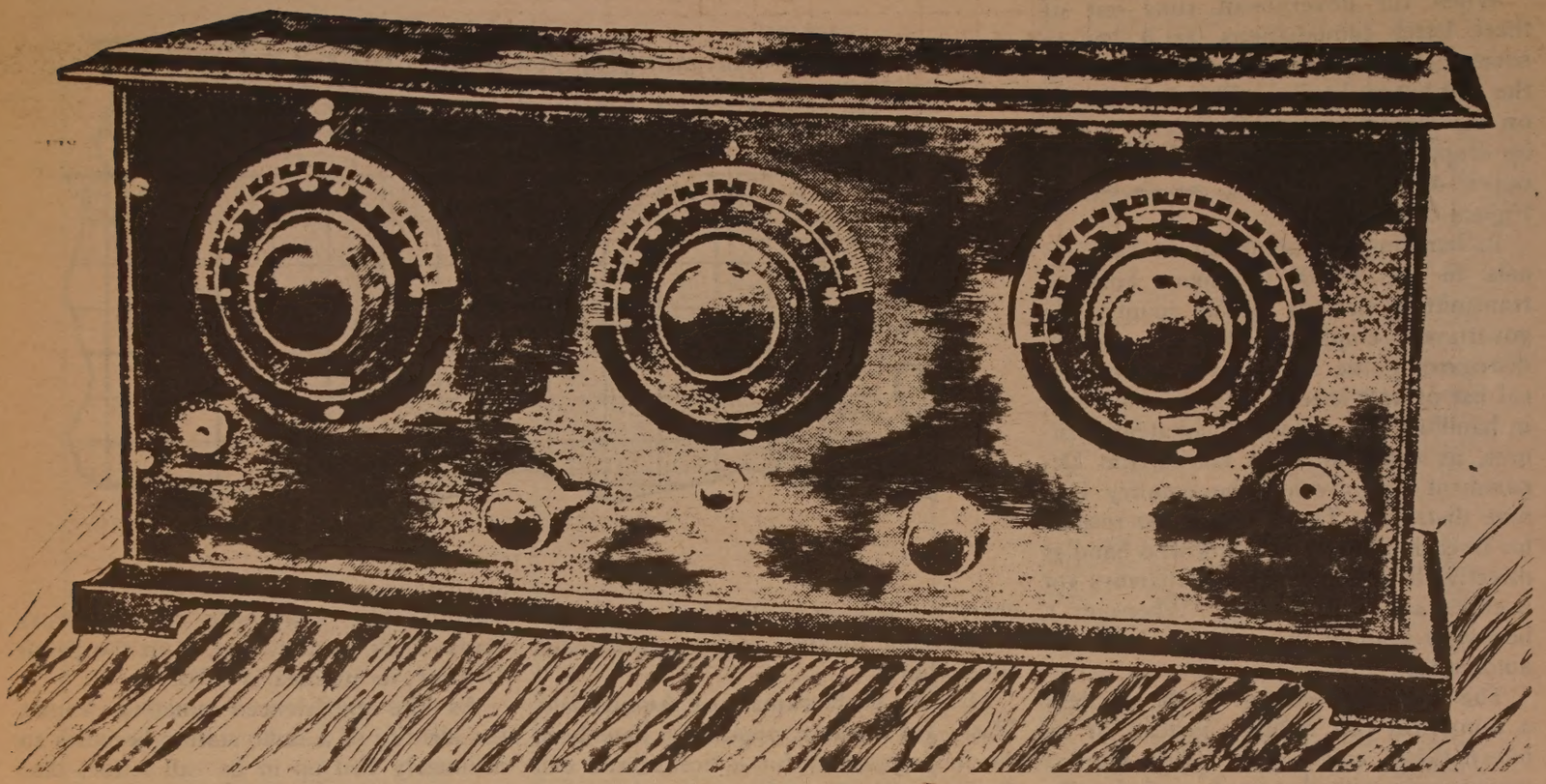


The Freshman Masterpiece of 1924 made by the Chas. Freshman Co. Inc.

of control over the distribution of call signals. The Navy Department orders the distribution of signals for the Navy vessels and shore stations: the War Department controls certain W groups, and the Radio Service of the Bureau of Navigation of the Department of Commerce has supervision over what remains of the W groups and of those K groups not assigned to Germany. The Radio Service of the Department of Commerce assigns all call signals for amateurs, commercial land radio stations, commercial ship radio stations, and the so-called special stations.

The assignment of call signals to amateur sending stations is in a class by itself, but for commercial radio purposes the United States is divided roughly in halves by the Department of Commerce. West of an imaginary line running north and south through the center of the country each station is given a letter combination beginning with K. East of the central line call signals begin with the letter W. Thus the signal of the Alaska Packers' Association of Clark's Point, Alaska, is KHG, while the call signal of the International Radio Telegraph Co., at Belfast, Me., is WNN. There are some exceptions to the rule, but in principle all Atlantic Coast stations begin with W and all Pacific stations with K.

In order to avoid confusion the assignment of signal calls by the Department of Commerce is recorded upon charts, known as K Charts, W Charts, and District Charts. The latter are for amateurs and specials. These charts are laid off in squares, 27 spaces wide and 27 spaces deep, as shown in the illustrations. Across the top of each chart, beginning in the second column, run the letters of the alphabet in their ordinary sequence. The letter at the top of each column thus indicates every square in the column's depth. Beginning at the second square from the top of the left hand column of the chart the letters of the alphabet range downwards—a letter for each horizontal column. This is a familiar arrangement for code charts, permitting the designation of any square in the chart by means of the letters at the top and side of the intersecting columns. It will be noted that such an arrangement reserves the square in the upper left hand corner of the chart for the first call letter.

On such a chart, then, (Figure 1) the square in Chart W at the point of intersection of vertical column A and horizontal column A would be indicated thus: WAA. If it were desired to indicate the square similarly located on Chart K, the symbol would read KAA.

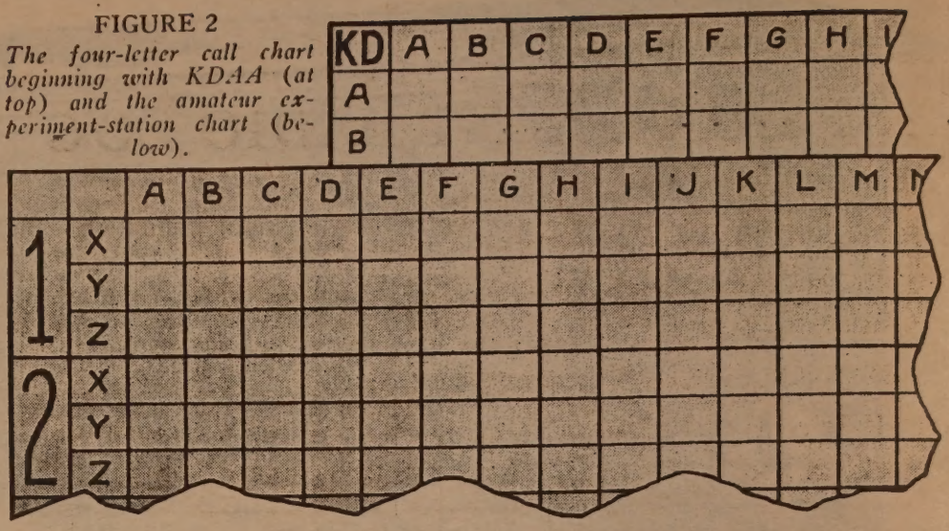
Suppose the Smith Manufacturing Co. enters an application for a radio license and asks for the allotment of a call signal for its station. Assume that the Smith Manufacturing Co. is located on the Atlantic Coast and is the first applicant to the Department of Commerce for a call signal. If a license is granted, after inspection, the name of the company is written in the square on the W Chart where the vertical column A intersects the horizontal column A. The company is then notified that its call signal is WAA. As long as the Smith Manufacturing Co. retains its government radio license its name remains in the WAA square as a record at the Department of Commerce. Should it give up its license the call signal would be reassigned to another license holder in Atlantic territory whose name would be

written into the square WAA.

When the government runs out of three letter combinations, as it has in some instances, the process of doubling the call letters begins. This is indicated on the Department of Commerce charts by dropping a two letter symbol into the upper left hand square, as shown in Figure 2.

FIGURE 2

The four-letter call chart beginning with KDAA (at top) and the amateur experiment-station chart (below).



In handling the allotment of call signals to the 15,000 or more amateur transmitting stations in this country the government employs a different system, disregarding the international alphabetical list of call letters. For greater ease in handling the volume of amateur business, as every amateur knows, the Department has divided the country into nine districts. There is a radio inspector in each of these districts who handles directly the applications of amateurs for licenses and call signals. Whenever a license is granted the call signal follows automatically.

The radio inspector gives the amateur a numerical call number instead of an international call letter. This number corresponds with the number of the district. The First District, for example, comprises all the New England states. The charts for that district are known as No. 1 Charts, a diagram of which is shown in Figure 1. The numerical charts are laid off in alphabetical columns in the same manner as the international letter charts.

Mr. W. E. Heckman, of Auburndale, Mass., for instance, appears to have been the first applicant for a license and call signal in the First District, so we find that his call signal is 1AA. The latest recorded applicant in the New England territory is Henry M. Wallingford, of West Somerville, Mass., and his call, being far down the alphabetical list, is 1WZ. The University of California Radio Club, at Berkeley, is in the Sixth District; its number is 6BB.

As the experienced amateur knows the identity of a radio station becomes so intimately tied up in its call letters that it is hard to think of the sender by name.

William A. Mackay is not generally known by that name to his radio amateur friends; some of them, indeed, may never have heard his name at all. He is "2AQB."

PAPER CAPACITORS

resistance on the radio depends on the circuit in which the capacitor is used. If it is employed as a bypass on the AVC line, one could encounter "blasting" and distortion when tuning in a strong signal. Most troublesome is the situation where a capacitor couples the plate of one tube to the grid of another, such as is often encountered in the audio stages. Here, the DC current that is allowed to leak through might easily reverse the normal negative bias of the grid to a positve one, resulting in a weak, distorted sound, lowered B+ (because of the increased plate current) and perhaps overheating of power supply components. On the other hand, in those applications where a capacitor is shunted by a resistor or coil, a small amount of leakage may have no noticeable effect at all.

Some collectors routinely replace all the paper capacitors in a set, while others more frugally prefer to change the few that are likely to cause a problem. Ideally, a capacitor tester or RLC "bridge" with a leakage test should be employed to evaluate the condition of a paper capacitor, but substitution with one of known quality is an alternative. As with electrolytics, at least one lead of the original part should be disconnected from the circuit during the substitution/replacement to eliminated the effect of any leakage present. Since most tubular capacitors have their value and DC voltage printed on the outside, selecting a correct replacement is seldom a problem. Capacitor banks and other styles of unmarked capacitors present more of a cnallenge, and usually require that one have a schematic diagram of the set being repaired.

Since even unused paper capacitors can become leaky with improper storage, you should select modern replacements that have polyester or ceramic as their insulating material, or older mica or hermetically sealed types. When replacing original high capacity filter capacitors, it is permissible to substitute an electrolytic type of adequate ratings, being certain to observe the correct polarity during installation.

I started collecting radios in the late part of 1960, developing a fondness for the past Victorian gingerbread radios made in the early 30's. A good example is the 1930 General Electric 9 tube, "The Highboy."

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But growing up in the 30's and 40's my taste, at that time, was for the streamline designs, which, manifested the growing dominance of the machine aesthetic on mass culture. Now, here I am seeing prices going up like a rocket over the streamlined, chrome and plastic radios of which I kept several on a model airplane shelf. But, I am still glad that at age 39 I became a collector of A. K. "breadboards" and Scott radios.

Most of the designers of the streamlined "teardrop" look received their inspiration from aerodynamic engineering. Speed and the look of machine made simplicity was the norm. Perfume bottles, pencil sharpeners and many other things took on a speedy look including radios and they like other things of the moderne design were mainly designed by not industry people but by fine artists and stage designers.

As far as I can determine the first to arrive on the scene of the modern radio world with the streamlined aesthetic of moderne industrial design of the American living was the Zenith, 1935, molded Bakelite radio. Who can come up with an earlier moderne design?

Let's get back to the pricing of old radios. In 1972 I remember discussions of radio collectors about what radios such as an A. K. "breadboard" or a Scott "Philharmonic" would be worth and which one would be valuable in the future.

At the 1975 Madison Square Garden antique show a Sparton radio showed up on the scene and started changing radio collecting into high finance. Although it only sold for $100.00, the art world recognized it. Yes, the kind of world that promotes high prices from the works of dead artists. In 1980 PORTFOLIO magazine in its "Collector Notes" reported that this just mentioned Sparton was worth $1,200 and this price was respected because it

(See page 8.)

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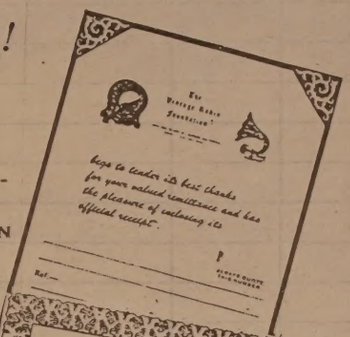

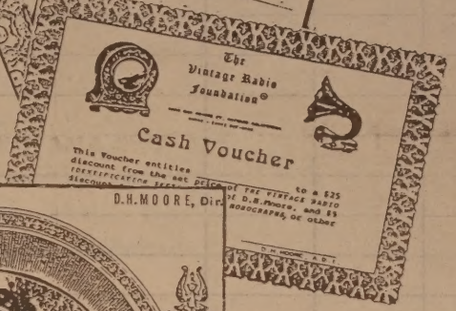

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came from the art world. It did not matter about whether the radio was a milestone of engineering or craftsmanship quality, only the moderne look counted. Alright, remember when certain collectors ran big ads in THE HORN SPEAKER, they were usually motivated by the art world.

The latest bewilderment of collectors, who have always shifted most of their energy on the traditional sets, battery sets and early AC sets, came last July 23 at an auction in State Line, Pennslyvania, reported by Mid-Atlantic Antique Radio Club that a red 1936 Air King "Skyscraper" topped $12,000 as the final purchase price handed over by Mike Baird, for a design called moderne.

insurance

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MODEL AND NUMBER OF RECEIVING SETS

This (X) Indicates Sets on which Parts are Used

Part No.	NAME OF PART	20 4640	9 4660	10 4700	12 4910	24 4920	20-C 7570	21 7780	20-C 7960	30 8000	30-A 8000-1	35 8100	32 8270	50 8500	33 8930	Price
8136	Condenser Pulley Belt										x	x				$ .15
8146	Condenser Pulley Belt										x	x	x	x		.15
8167	Vernier Knob Complete (no screw)									x	x		x	x	x	.46
8169	Radio Speaker Name Plate											x				.20
8185	Sub Panel Assembly									x						35.00
8187	R. F. Assembly Mtg. Screw													x		.01
8188	Mt. Bracket Screw Nut											x		x		.01
8188	R. F. Assem. Mtg. Screw Nut													x		.01
8190	Fixed (Grid) Resistance								x	x	x	x	x		x	.50
8195	Grid Leak								x	x	x	x	x	x	x	.50
8195	Grid Leak (used after serial No. 517001)									x						.50
8208	Ant. and Grd. Name Plate											x				.11
8209	No. 1 R. F. Coil Mt. Bracket Screw											x				.05
8210	No. 3 R. F. Coil Mt. Bracket Screw											x				.05
8215	Phone Binding Post									x	x				x	.20
8215	Ant. Grd. Binding Post										x	x		x		.20
8217	Condenser Mt. Screw Washer										x	x				.01
8218	Mtg. Nut for Grid Resistance														x	.01
8220	Mt. Bracket Screw Lock Washer (per 100)											x		x	x	.10
8220	Mtg. Screw Lock Washer (per 100)													x		.10
8221	Mt. Screw for Det. 2-Stage										x	x		x		.03
8225	Grid Resistance											x				.50
8232	Choke Coil										x	x	x	x		.85
8233	Corner Studs											x				.25
8235	Bottom Base Retaining Nut											x				.05
8236	Main Name Plate (Ship)											x				1.25
8237	Grid Leak Clip										x	x				.03
8238	Det. 2-Stage Base with Contact Spring and Phone Post									x	x	x	x		x	2.50
8241	Phone Condenser									x	x	x	x		x	.60
8245	Log Card (per 100)											x				.75
8246	Bottom Base Felt Pad											x				.04
8247	Top Base Felt Pad											x				.04
8250	Cabinet Complete												x			15.00
8251	No. 1 R. F. Tube Socket								x							1.25
8252	No. 1 Tapped Transformer								x							2.00
8253	No. 2 R. F. Transformer								x							2.00
8254	No. 3 R. F. Transformer								x							2.00
8255	Double Rheostat Complete									x						4.75
8256	Fixed Resistance for A. F.									x	x		x		x	.26
8257	Double Rheostat								x							4.75
8262	No. 1 Variable Condenser and R. F. Transformer								x							10.00
8263	No. 2 Variable Condenser and R. F. Transformer								x							10.00
8264	No. 3 Variable Condenser and R. F. Transformer								x							10.00
8269	Shipping Container								x							.35 Net
8270	Model 32 Receiving Set															110.00
8272	Main Name Plate (Ship) Rivet											x				.02
8275	Det. 2-Stage Amplifier												x			14.00
8281	Main Panel and Angle Piece												x			3.50
8282	Condenser Pulley Belt												x			.15
8284	Grid Resistance												x			.50
8287	Metal Container Base with Felt Pads											x				1.25
8291	Shipping Container												x			.40 Net
8296	Sub Panel Assembly												x			65.00
8302	Double Rheostat												x			4.75
8303	A. F. Fixed Resistance								x							.25
8308	R. F. Rheostat Resistance												x			.15
8310	Rheostat Resistance for Detector								x	x	x		x	x	x	.15
8330	Det. 2-Stage Assembly								x							14.00
8340	Detector 2-Stage Amplifier (used after serial No. 522000)									x	x				x	14.00
8352	Battery Cable Terminal Clip								x	x	x	x	x	x	x	.06
8415	Double Rheostat Assembly										x					4.75
8420	Cabinet										x					15.00
8422	Front Panel										x					2.75
8439	Grid Resistance Unit										x	x				.50
8440	*R. F. Amplifier Assembly											x				10.00
8449	†R. F. Amplifier Assembly										x					10.00
8503	Antenna Adjustment Condenser Plate													x	x	.10
8507	Antenna Adjustment Condenser Washer													x	x	.03
8509	Antenna Adjustment Condenser Shaft													x	x	.20
8513	Antenna Adjustment Condenser													x	x	.35

* For use of this part on Model 35 set, see page 13. † For use of this part on Model 30-A set, see page 12.

(Continued from last month.)

Above is a cross reference list of all of the major parts used in the Atwater Kent battery radios between 1924 and 1927. It tells which sets each of the listed parts were used. This list was printed by A. K. in 1927.

Ray

(To be continued.)

"WHEEL STATIC" AND SERVICE NOTES CA 1938 15.00 --- TUNING CONTROLS FOR MOTOROLA FOR 1950-52 STUDEBAKER RADIO, ORIGINAL BOX $10.00 INCLUDES SPEAKER MALLORY UHF TV TUNER USED $7.50 --- BLONDER TONGUE UHF TUNER, USED $6.00 --- ASTATIC VHF BOOSTER USED $5.00 --- NOS STANDARD VHF BOOSTER MDL 5-51 IN BOX $6.00 --- PLAYTIME CHILD'S CASSETTE PLAYER N1B $6.00 --- MAGNACORD P-6 TAPE RECORDER 10" REEL, 2 PLUG IN HEADS 1CH, 2CH FROM RADIO STATION WORKS, 2 PIECE IN LUGGAGE TYPE CASES $75.00 --- HANDCRANK DITTO MACHINE WORKS $10.00 --- 3-TDD (tty) TELEPHONE DEVICE FOR THE DEAF, WORK, DEMONSTRATORS, WRITE FOR DETAILS. ALL ITEMS PLUS SHIPPING. C. F. ENGLAND, KB8JVL, 98 MONTAGUE, ZANESVILLE, OH 43701. --- STANCOR VIBRATOR XMFR. VERT. MT. 6VCT IN, 250 CT OUT @ 50MA. MARKED PHILCO HAS 2 THDED STUDS ON BOTTOM $3.50 OLSON VIBE. XMFRS OLSON NUMBER T-162 6.3 PRI., 160 V. 70MA OUT $3.50 --- AUTO VIBE XMFRS, 6 WIRES HORIZ. MT. SHIELDED ONE SIDE COPPER OTHER SIDE CHROME SHELL NOT MARKED 6 OR 12V. 6 WIRES $2.00 EACH --- MERIT 2972 6V VIBE VER. MT. OUT 260V @ 60MA $4.00 --- COIL, MEISSNER N.O.S. IN BOX 1053 MARKED 12SA7 OSC. CON. COIL $4.00 --- MEISSNER 16 6667 2ND IF TRANSFORMER 456 KC $4.00 --- CAR RADIO SERVICE INFORMATION COLONIAL (SYLVANIA) AUTO RADIO SERVICE AND DEALER MANUEL, GREEN WITH GOLD LETTERS, HARD COVER LOOSE LEAF ABOUT 2 1/2 IN. THICK DATED 1954, NEW CONDITION HAS 6 SECTIONS, #1, PRICE LIST, 2 SERVICE BULLETINS, #3 WARRANTY & POLICIES, OFFICAL DIRECTORY 5 PART CATALOG. 6 SERVICE NOTES. --------- ALL ITEMS PLUS SHIPPING --- C. F. ENGLAND, KB8JVL, 98 MONTAGUE AVENUE, S. ZANESVILLE, OH 43701.

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GENERAL RADIO TYPE 1231-P2 tuned circuit, switch selected 400 or 1,000 cycles, 25.00 ppd. Jack Box BC-13 66, NIB 11.00 ppd. Superior Instrument sional generator, 6 bands 100 kc to 180 mc, 25.00 ppd. IRC volume control kit metal box, empty 7.50 ppd. Knight- kit tube tester, rough condition, no model number, 17.50 ppd. Original handbook for radio set AN/APN-1, AN/APN-1A, AN/APN-1B and AN/APN1X, like new, 17.50 ppd. ---- James Fred, R 1, Box 1, Cutler, IN 46920.

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PLAY OLD TIME MUSIC ON YOUR ANTIQUE RADIO WITH THIS "PHONO OSCILLATOR!" THREE TRANSISTOR CIRCUIT HAS TUNING AND MODULATION CONTROLS - CONNECTS TO TAPE DECK OR TURNTABLE TO BROADCAST MUSIC, DRAMA, ETC. THROUGH ANY AM RADIO. OPERATES ON ORDINARY 9V BATTERY AND DRAWS LESS THAN 5 MA. ALL COMPONENTS TO BE MOUNTED ON PC BOARD MEASURING LESS THAN 2" X 3" -- PRICE FOR A KIT IS $19.95 PLUS $3.00 POSTAGE AND HANDLING. VT RESIDENTS SHOULD INCLUDE SALES TAX. ORDER FROM METCO ELECTRONICS, P. O. BOX 549, SHELBURNE, VT 05482.

****

SUPERIOR INST. GRENOMETER MODEL TV50A, AS IS, $15. -- GREENWICH RADIO PRODUCTS VOLT- OHMMETER, VERY OLD $10. -- STANCOR ISOLATION TRANS. P6298 $50. -- HEATHKIT TV ALIGNMENT GENERATOR MODEL TS-4, $25. -- AURICON SOUND ON FILM RECORDING AMPLIFIER MODEL EB-10, LOOKS GOOD, $50. -- ITEMS $25.00 OR OVER SHIPPED FREE. ----- JAMES FRED, R1, CUTLER, IN 46920.

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KENNEDY 15 MINT $425 -- MUSIC MASTER HORN $150. -- RADIOLA UZ1325 $70. -- RADIOLA 103 SPEAKER $65. -- VICTOR LUMIERE SPEAKER NO. 1 $65. -- RADIO RECEIVER HORN $75. -- 1924-30 RADIO CATALOGS ----- ANTHONY CASERTA, 47 VISTA LANE LEVITSTOWN, NY 11756. (516) 731-7175.

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THE VINTAGE RADIO FOUNDATION - - - are you a member? - if not, get full information from Jim Lanphear, 4062 Oak Point Ct., Hayward, CA -- 94542.

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FOR SALE -- HEATHKIT

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HEATHKITS -- models IT-5235, IG-5228, IG-37, for TV-FM repair, C. S. Hoffman, 824 Gordon Street, Allentown, PA 18102.

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FOR SALE --- PLASTICS AND NOVELTIES

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CLASSIC RADIO CATALINS, SUCH A 1949 PEPSI COLA SUPER HETRODYVE BOTTLE2-FEET TALL. 1936 AMC SUPER HETRODYNE MODEL 125-P SENTINAL 284 1947 DETROLA CREAM AND BROWN AND OTHERS. SEND $3.00 FOR LIST AND PRICES. C. T., 5270 E. EUCLID AVENUE, BOULDER, CO 80303.

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FOR SALE -- SCHEMATICS, BOOKS, ETC.

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SELL: GOV'T TECHNICAL manuals operation maintence (original) Zenith Trans- Oceanic receiver 7 bands $25.00 each. (Reproduction) above Zenith or R 388 (Collins 51J series) $19,00 each. Others, send want list; Philco radio type J2, table cathedral, restorable, SASE, make offer; I can make full color copies from your photograph of radios, meetings, advertising, etc. Reduced or enlarged to 8" x 11". $1.00 each postpaid. (org. returned); large parts, electronics catalog, used bargains! $1.00; D. Testa, P. O. Box 9064-HS, Newark, NJ 07104.

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RIDER PERPETUAL TROUBLE SHOOTER'S manuals 1 thru 17 plus separate index $500.00 -- also - Sam's manuals 1 thru 17 in original envelopes with index on front. Over 600 schematics and pictures $100.00. I will send pre-paid, insured and require signature on delivery. If interested I will send photo write C. T., 5270 East Euclid Avenue, Boulder, CO 80303

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RADIO NEWS IN BOUND VOLUMES 1950 TO 1959 NAME CHANGED TO ELECTRONIC WORLD 1959 TO 1969 20 VOLUMES LIKE NEW ALSO. P.F. REPORTER 4 VOLUMES 1960-61-63-65. RIDER ENCYCLOPEDIA ON OSCILLOSCOPES 1959 LARGE VOLUME HAS SLEEVE 10 LBS. $25.00 RUSS OLMSTED, 608 W. THOMPSON LN., MURFREESBORO, IN 37129.

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HOWARD SAMS #1 TO #115 manuals to 1971 -- $4.00 A set. --- Neil Clute, K5VBP, Route 1 Box 61, Marquez, TX 77865.

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SAMS PHOTOFACTS, AUTO RADIO AND TRANSISTOR RADIO SERVICE. 189 BOOKS, GOOD CONDITION -- SOME STILL IN CELLOPHANE WRAPPERS. 1966-1973, FIRM PLUS SHIPPING (918) 786-4514, ALAN ROLLOW, RR3 BOX 140, JAY, OK 74346.

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FOR SALE -- SILVER MARSHALL

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SILVER MARSHALL A-18, CONSOLE, EXCELLENT CONDITION OR TRADE FOR OZARKA V-16 CHASSIS. RAY MINER, 1215 B. FT. MADISON, IA 52627. (319) 372-1271.

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FOR SALE -- TUBES, PARTS, TEST EQUIPMENT, ETC.

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OLD-LIGHTED GE RADIO SIGN -- RUSSELL SCHOEN, E7340 NIETZKE ROAD, CLINTONVILLE, WI 54929. (715) 823-6744.

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NEW AND USED TUBES, electrolytic capacitors, cone speakers. Send SASE for lists. C. Elmer Nelson, 11 S. Church Street, Princeton, IL 61356.

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LARGE CONSOLE SPEAKER, HAD GREBE SITTING ON TOP --- PHOTO (2) FRONT - BACK $1.00 ---- RUSS OLMSTED, 608 W. THOMPSON LANE, MURFREESBORO, TN 37129.

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TELEVISIONS

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FARNSWORTH model 651-P, 10" B/W, 1948, walnut table model, 29 tubes, Completely restored cabinet

and electronics, $1,200 plus shipping costs. Panasonic TR001 and Sinclair Nine TVs, $400 plus shipping costs. Send SASE and $1.00 for photo. Bill Russell, 3236 Laurel Canyon, Santa Barbara, CA 93105.

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FOR SALE -- ZENITH

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ZENITH MODEL 7G605 TRANSOCEANIC PORTABLE - 1941 (SEE MARCH 1990 HORN SPEAKER) $110, ALSO HAVE ZENITH 6G001Y ZENITH PORTABLE $35.00. PAT STEWART, W7GVC, 1404 RUTH AVENUE, WALLA WALLA, WA 99362 (509) 525-1699.

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wanted

WANTED --- AMATEUR EQUIPMENT

WANT GREBE SHORTWAVE RECEIVER 1920'S 1930'S AMATEUR RADIO TRANSMITTERS, RECEIVERS. HALLICRAFTER HT6 TRANSMITTER-HOWARD 430 438 AMATEUR RECEIVER -- R. OLMSTED, 608 W. THOMPSON LANE, MURFREESBORO, TN 37129.

WANTED --- AMECO

---

15 WATT TRANSMITTER, Ameco, Please contact, M. G. Clute, K5DXV, Route 1, Jewett, TX 75846.

WANTED --- ARMY SURPLUS

I WOULD LIKE TO FIND AN ARMY SURPLUS TRANSMITTER BC-223 AX with TU coil sets. Transmitter uses 801 and NR46 tubes. Would like any repairable or parts set. K4UJZ, 608 W. Thompson Lane, Murfreesboro, TN 37129.

WANTED --- ATWATER KENT

TOP COVER FOR MODEL 2 ATWATER KENT. L. G. SIEBERT, 195 MONMOUTH DRIVE, KAMLOOPS, B. C. CANADA V2E 1L9

TONE BEAM for model 480. Will pay your price. Interested in buying any old radios. Send description, model and price and I'll reply. H. Thomas Hale III, 2574 Ocelot Avenue, NE, North Canton, OH 44721.

WANTED --- COLLINS

"COLLINS SIGNAL" newsletters; ARRL, "Hints and Kinks." Old Collins receivers and transmitters, Grebe RORD-- Parker, W1YG, 87 Cove Road, Lyme, CT 06371. (203) 434-7783.

WANTED --- CROSLEY

~~SCHEMATIC for a Crosley 4-29 -- Jack Emery, Box #84, 5546 Union Street, Lexington, MI 48450.~~

WANTED -- GLOBE TROTTER

1959 RCA "Globe Trotter" portableradios. model IT5J or IT5L. Must play perfect! Mike Hanke; 1036 South 15th Avenue, Wausau, WI 54401.

WANTED --- HALLICRAFTERS

HALLICRAFTERS SHORT model SX42. Call (312) 961-7737. Rich.

WANTED --- LITERATURE

SCHEMATIC for a Crosley 4-29 -- Jack Emery, Box #84, 5546 Union Street, Lexington, MI 48450.

OPERATING MANUAL and tube data sheets for Jackson Dynamic tube tester model 636. Zerox copy OK, Frank Hoffert, 19605 Chardon road, Cleveland, OH 44117.

WANTED --- MISCELLANEOUS

OLD VIOLINS/ FIDDLES -- ANY CONDITION - BUY - SELL - TRADE - REPAIR - CONTACT - JAMES BARNES - UNIVERSITY OF TENNESSEE - 206 FERRIS HALL - KNOXVILLE, TN 37996 (615) 97-5489

WANTED --- NATIONAL

NATIONAL "VIDEO METER" wood or metal case - complete or not --- Fred Emerson, 627 Illinois Avenue, Elgin, IL 60120.

WANTED --- PARTS, TUBES, ETC.

PHILCO 32-1313 IF XFMR OR PARTS CHASSIS. USED IN MODELS 8, 37-8. ZENITH 75633 DIAL GLASS, 5 1/2" X 7" CURVED, USED IN MANY MODELS. GERNSBACK OFFICIAL SERVICE MANUAL VOL? 6. RIDER AUTO RADIO INDEX. ALVIN HECKARD, RD1, BOX 88, LEWISTOWN, PA 17044.

AMATEUR BAND SPREAD COILS FOR NATIONAL SW-3. Also need parts and schematic for Harvey Radio Laboratories amateur transmitter 90-C, circa 1938. Leland Smith, W5KL, HCR=31, Box 147, Jasper, AR 72641. (501) 428-5967.

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* jun 90

WANTED: POWER TRANSFORMERS FOR SONORA MODELS A-30, A-32, A-40, 2RP-25, 3R or 4R. Bottom left brass knob for Northern Electric model 50. Sonora and Eveready tubes. John Swett, 8116 Olmway, Olmsted Falls, OH 44138. (216) 235-1463.

AK model 10 RF coil with name plate and single tube socket with binding posts. Bob Nicholson, 3423 S. Long, Topeka, KS 66605. (913) 266-9473.

TRANSMITTING TUBE HF-150 or an equivalent. TCBA, RR6, Box 181, Glens Falls, NY 12801.

RHEOSTAT DIAL for Stromberg Carlson, Joe Warburton, 954 East Madison Street, Brownsville, TX 78520.

JAPANESE SUBS for UZ133D - UF109A - UF134 and UZ135. -- C. S. Hoffman, 824 Gordon Street, Allentown, PA 18102.

I NEED A MAROON CABINET and two orange knobs for a Fada 1000 radio. Also need 4 WD11's. Write or phone 1-802-862-4394. Walter Keith, 269 White Street, South Burlington, VT 05403.

ERLA BALLON CIRCLOID coupler 200-500 M for ERLA model S-11. Jim Briscoe, P.O. Box 327, Shoals, IN 47581. (812) 247-2497.

-WANTED --- PHILCO

DIAL AND SPEAKER for Philco no. 90-90A or chassis and speaker. Any condition. S. K. Hughes, 1338 E. Mulberry Street, Phoenix, AZ 85014. 1-602-248-0734.

WANTED --- RCA

SEP 90

A SERVICEABLE MAGNETIC PICK-UP HEAD FOR A CONSOLE RCA RADIO-PHONO MODEL RE-45. THE DEFECTIVE ONE I HAVE HAS THE NIPPER LOGO ON THE FRONT OF THE HEAD. ALSO WANTED, THE BOOK OF 1929-1930 RCA VICTOR SERVICE NOTES. HOWARD E. SUTTON, 1163 FURMAN DRIVE, SUMTER, SC 29154.

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